



## 2023 Workshop on Methods for 3D Microstructure Studies

August 16-18, 2023

### Final Agenda

#### Day 1, Wednesday, August 16, 2023

- 8:45 – 9:00            **Greg Rohrer**, Carnegie Mellon University  
Introductions and overview of the workshop
- Invited Speakers 1**
- 9:00 – 9:45            **Ashley Spear**, University of Utah, Characterizing Microstructure-sensitive Mechanical Response of Open-cell Metal Foams using High-fidelity Models and In-situ Experiments
- 9:45 – 10:30          **Carl Krill**, University of Ulm, Probing the mysteries of grain growth in 3D: Cyril Stanley Smith, German beer and the "Attack of the Green Monster!"
- 10:30 – 10:45          Break
- Invited Speakers 2**
- 10:45 – 11:30          **McLean Echlin**, University of California, Santa Barbara, Next Generation TriBeam Microscopes Enabling Mesoscale 3D Data
- 11:30 – 12:15          **Ashwin Shahani**, University of Michigan, Three-dimensional measurements of intergranular percolation: a test of theory
- 12:15 – 1:00            Lunch Break (boxed lunches provided)
- 1:00 – 1:30            **Sean Donegan**, Air Force Research Laboratory  
Overview of Dream3D
- 1:30 – 2:45            **Sean Donegan**, Air Force Research Laboratory  
Analysis of serial section data using DREAM3D
- 2:45 – 4:15            **Sean Donegan**, Air Force Research Laboratory  
Meshing & Smoothing microstructures using DREAM3D
- 4:15 – 4:30            Break / Workshop Picture
- 4:30 – 5:00            **Marc DeGraef**, Carnegie Mellon University  
EMsoft Overview
- 5:15 – 7:00            **All**  
Refreshments provided on the MSE Deck

**Note for day 1.** For those planning to participate in the tutorial for plugin development on Day 3, it is recommended that you set up the development environment on your computer in advance. A representative of BlueQuartz Software will be available throughout Day 1 to assist with this. If you prefer to begin this prior to the workshop, contact Mike Jackson at [mike.jackson@bluequartz.net](mailto:mike.jackson@bluequartz.net).

## Day 2, Thursday, August 17, 2023

- 9:00 – 10:00      **Sean Donegan**, Air Force Research Laboratory  
Generating 3D microstructures with DREAM3D, part 1
- 10:00 – 10:15      Break
- 10:15 – 11:30      **Sean Donegan**, Air Force Research Laboratory  
Generating 3D microstructures with DREAM3D, part 2
- 11:30 – 12:00      **Mike Uchic**, Air Force Research Laboratory  
Using serial sectioning as ground truth to support NDE development
- 12:00 – 1:30      Lunch Break (boxed lunches provided)
- 1:30 – 2:00      **Cindy He**, University of New South Wales, Progress in characterization  
of 3D printed alloys via plasma focused ion beam and 3D EBSD
- 2:00 – 2:30      **Tony Rollett**, Carnegie Mellon University, 3D Observation of Orientation  
Gradients during Recrystallization in AM 316L Stainless Steel Using High  
Energy Diffraction Microscopy (HEDM).
- 2:30 – 2:45      Break
- 2:45 – 5:00      **Sean Donegan and others**, Air Force Research Laboratory  
Hands on help session: time to practice running Dream3D, problem  
solving, time to work on your own 3D data sets, with experts  
available for assistance.
- 6:00 – 8:00      All      Optional no-host dinner at the Porch

## Day 3, Friday, August 18, 2023

- 9:00 – 10:30      **Mike Jackson**, BlueQuartz Software  
Translating Software Tools into Plug-ins for DREAM3D
- 10:30 – 10:45      Break
- 10:45 – 12:15      **Mike Jackson and other**, BlueQuartz Software  
Hands on help session
- 12:15: Adjourn